REMARKS/ARGUMENT

The Applicants respond under 37 C.F.R. § 1.111 as follows to the Office Action of November 1, 2010.

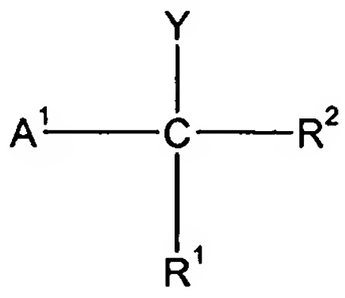
Claims 1 through 10 and 19 through 24 are pending in the application. Claims 11 through 18 are canceled, and claims 1 through 8, 10, 19, and 21 through 24 are amended. Claims 2 through 10 and 19 through 24 are withdrawn from consideration as not readable on the elected and previously examined invention (tebuconazole).

As amended, all of the claims remaining in the application now read on tebuconazole. Accordingly, it is requested that the Examiner's refusal to consider claims 2 through 10 and 19 through 24 be withdrawn.

1. Rejection under 35 U.S.C. § 103(a)

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over the combined teachings of Cooke et al. (WO 01/11965) and Holmwood et al. (U.S. Patent No. 4,723,984) in view of Hopkinson et al. (U.S. Patent No. 6,746,988). The Applicants traverse this rejection and request reconsideration.

Cooke et al. claim a compound or a complex or salt thereof of the general formula I:



(I)

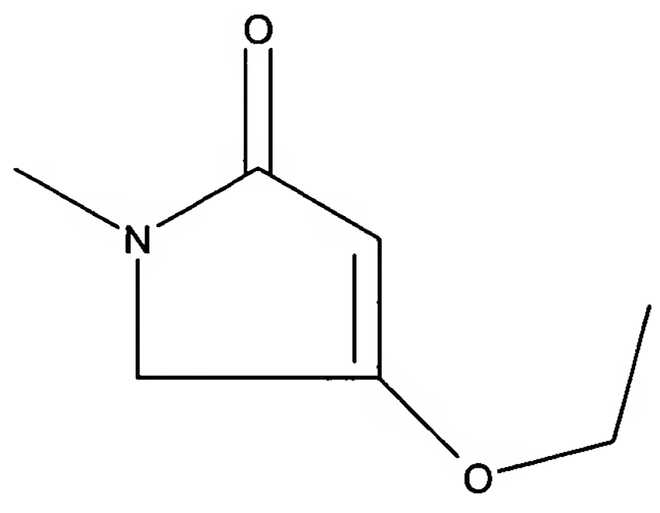
wherein:

A^1 is 2-pyridyl substituted with from one to four moieties independently selected from the group consisting of halogen and trifluoromethyl, provided that at least one moiety is trifluoromethyl;

Y is a moiety selected from the group consisting of $-L-A^2$ and $-L^1-A^3$

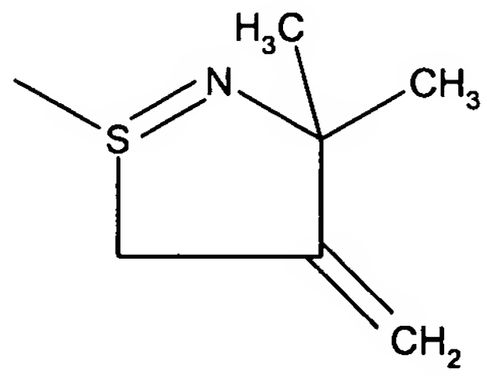
wherein:

A^2 is selected from the group consisting of unsubstituted or substituted phenyl, cyclohexyl, cyclopropyl, thienyl, imidazolyl, tolyl, and



wherein any substituents on A^2 are independently selected from the group consisting of alkyl, halogen, and haloalkyl;

A^3 is selected from the group consisting of unsubstituted or substituted phenyl, pyridyl, thiodiazolyl, triazolyl, fluorenyl, tolyl, tetrazolyl, pyrimidinyl, imidazolyl, benzthiazolyl, quinolinyl, and



wherein any substituents on A^3 are selected from the group consisting of alkyl, halogen, haloalkyl, hydroxyl, and phenyl;

L is a 3-atom linker selected from the group consisting of $-N(R^5)C(=X)N(R^6)-$, $-N(R^5)C(=X)CH(R^3)-$, $-CH(R^3)N(R^5)CH(R^4)-$, $-CH(R^3)N(R^5)C(=X)-$, $-ON(R^5)C(=X)-$; wherein the left hand side of L is attached to the central carbon atom of formula I;

L^1 is a 4-atom linker selected from the group consisting of $-N(R^9)C(=X)X^1CH(R^7)-$, $-N(R^9)C(=X)CH(R^7)CH(R^8)-$; $-N(R^9)C(R^7)=C(R^8)C(=X)-$, $-N(R^9)C(=X)C(R^7)(R^8)SO_2-$, and $-N(R^9)C(=X)C(R^7)(R^8)X^1$; wherein the left hand side of L^1 is attached to the central carbon atom of formula I;

R^1, R^2, R^3, and R^4 are independently selected from the group consisting of hydrogen or alkyl;

R^5, R^6, R^7, and R^8 are independently selected from the group consisting of hydrogen, alkyl, and acyl;

X is selected from the group consisting of oxygen and sulfur;

X^1 is selected from the group consisting of oxygen and $-N(R^9)-$; and

R^9 is selected from the group consisting of hydrogen and alkyl.

The Applicants acknowledged in the present specification:

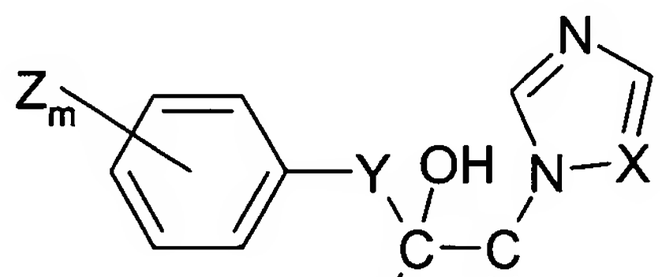
[0002] International patent application WO 01/11965 generically discloses numerous pyridylethylbenzamide derivatives. The possibility of combining one or more of these numerous pyridylethylbenzamide derivatives with known fungicidal products to develop a fungicidal activity is disclosed in general terms, without any specific example or biological data.

(Publication No. 2007/0123541, page 1.) It is true that the compounds of the present invention are structurally encompassed by the genus of Cooke et al., which is a very large genus, indeed.

> The Applicants also acknowledged that Cooke et al. disclose:
>
> [0041] In addition, the composition can comprise one or more additional active ingredients, for example compounds known to possess plant-growth regulant, herbicidal, fungicidal, insecticidal, acaricidal, antimicrobial or antibacterial properties. Alternatively, the compound of the invention can be used in sequence with the other active ingredient.

WO 01/11965 to Cooke et al., p. 9. However, there is no teaching or suggestion in Cooke et al. of any synergistic effect obtained when such pyridylethylbenzamide derivatives are combined with compounds capable of inhibiting ergosterol biosynthesis, nor is there any disclosure of what the ratios of the two fungicides should be, such as the currently claimed (a)/(b) weight ratio of from 0.01 to 20.

Holmwood et al. disclose 1-hydroxyethyl-azole derivatives of the general formula



in which R represents an alkyl radical, an optionally substituted cycloalkyl radical or an optionally substituted phenyl radical, X represents a nitrogen atom or a CH group, Y represents a grouping $-OCH_2-$, $-CH_2CH_2-$ or -CH=CH-, Z represents a halogen atom, an alkyl, cycloalkyl, alkoxy, alkylthio, halogenoalkyl, halogenoalkoxy or halogenoalkylthio radical, an optionally

substituted phenyl radical, an optionally substituted phenoxy radical, an optionally substituted phenylalkyl radical or an optionally substituted phenylalkoxy radical and m is 0, 1, 2, or 3; a process for their preparation; and their use as plant growth regulators and fungicides.

The invention of Holmwood et al. is primarily directed to the 1-hydroxyethyl-azoles, *per se,* and their use as plant growth regulators, although the patentees do show fungicidal activity against a fungus, but only one: *Erisyphe graminis f.sp. hordei*. The Applicants acknowledge that the compositions of the present invention can also be used against this fungus, as well as many others. Indeed, the Applicants acknowledge that the pyridylethylbenzamide derivatives and the triazole compounds used with them in the practice of the present invention are known fungicides.

It is understood to be the Examiner's position that the pyridylethylbenzamide derivatives are known fungicides and the triazole compounds are known fungicides and, thus, it would be obvious to use them in combination.

It is the Applicants' position, however, that they have discovered a combination in a particular ratio that clearly exhibits synergism and is neither disclosed nor suggested by the cited art. They have demonstrated this synergism for this combination in the examples of the present specification, particularly Examples 1 through 10 and 16, using means for determining synergism that is accepted in the art, i.e., the Colby formula, which was published in the journal 15 WEEDS 20-22 (1967). The Examiner's attention is directed to U.S. Patent No. 6,753,339 to Chazalet et al. in which the Colby method of determining synergism was also employed to the satisfaction of the Patent Office. In fact, the Applicants' representative searched the USPTO Patent Full-

Text and Image Database using the keywords SPEC/Colby AND SPEC/synergism and obtained 214 hits. Clearly, the Colby method has been frequently used to the satisfaction of the USPTO to show synergism and, consequently, non-obviousness.

Based on the teachings of the Cooke et al. and Holmwood et al. references, skilled artisans might have expected fungicidal activity for mixtures of the pyridylethylbenzamide derivatives and the triazole compounds used with them in the practice of the present invention, but they would not have expected any synergy when associating these compounds, in particular, in the claimed weight ratio of from 0.01 to 20. Unexpected results have been shown for the claimed combination, and thus it logically follows that the combination cannot be obvious.

More specifically, the term "synergistic effect" as used in this specification is understood to mean in particular that defined in an article by Colby, S. R., "Calculation of the synergistic and antagonistic responses of herbicide combinations," 15 WEEDS 20-22 (1967), as noted above. This article uses the formula:

$$E = X + Y - (XY/100)$$

in which E represents the expected percentage of inhibition of a disease for a combination of the two fungicides at defined doses (for example, equal to x and y respectively), X is the percentage of inhibition observed for the disease by a first compound at a defined dose (equal to x), and Y is the percentage of inhibition observed for the disease by a second compound at a defined dose (equal to y). When the percentage of inhibition experimentally observed for the combination is greater than E, there is a synergistic effect.

In Example 1 of the present application:

X, the efficacy of N-{2-[3-chloro-5-(trifluoromethyl)-2-pyridinyl]ethyl}-2-trifluoromethylbenzamide (Compound 1) alone at a concentration of 15 g/ha is 25%; and

Y, the efficacy of tebuconazole alone at a concentration of 15 g/ha is 15%.

Thus, from the Colby formula, the expected efficacy of the combination of 15g/ha of N-{2-[3-chloro-5-(trifluoromethyl)-2-pyridinyl]ethyl}-2-trifluoromethylbenzamide and 15 g/ha of tebuconazole would be

E = 25 + 15 - [(25 x 15) / 100], or
E = 40 - 3.75, or
E = 36.25% (rounded off in Example 1 to two significant figures, i.e., 36% .

However, it has been shown experimentally that the actual efficacy of the combination is 75%. Accordingly, by the Colby method, there is synergy in the unexpected increase in efficacy of 75% minus 36%, or 39%.

Similarly, Example 1 goes on to show that for concentrations of each of the two components of 31 g/ha, the results were:

E = 65 + 15 - [(65 x 15) / 100], or
E = 80 - 9.75, or
E = 70.25% (rounded off in Example 1 to two significant figures, i.e., 70%).

Here, again, it has been shown experimentally that the actual efficacy of the combination is 80%. Accordingly, by the Colby method, there is synergy in the unexpected increase in efficacy of 80% minus 70%, or 10%.

Examples 2 through 10 and 16 show similar synergies, ranging from 10% to 90% for other representative triazole derivatives, specifically, prothioconazole, propiconazole, cyproconazole, difenconazole, hexaconazole, metconazole, epoxiconazole, myclobutanil, triadimenol, and bitertanol in combination with N-{2-[3-chloro-5-(trifluoromethyl)-2-pyridinyl]ethyl}-2-trifluoromethylbenzamide (Compound 1) at various dosages.

Hopkinson et al. disclose surfactant systems comprising alkyl polyglycosides, anionic surfactants and basic compounds. Agricultural compositions comprising agriculturally active compounds, alkyl polyglycosides, anionic surfactants and basic compounds are disclosed. The surfactant systems and agricultural compositions may further comprise nonionic surfactants.

Hopkinson et al. fail to supplement the deficiencies of Cooke et al. and Holmwood et al. as references against the patentability of the subject invention, discussed above. At most, Hopkinson et al. teach that combinations of fungicides, some of which may or may not be triazoles, can be used in combination with surfactants. That this is known in the art is also acknowledged. However, there is nothing in Hopkinson et al., alone or in combination with the other cited art, that would lead a person of ordinary skill in the art to prepare a composition comprising:

(a) a pyridylethylbenzamide derivative of a specified formula and

(b) a compound capable of inhibiting ergosterol biosynthesis, especially azaconazole, bitertanol, bromuconazole, cyproconazole, difenoconazole, diniconazole, epoxiconazole, fenbuconazole, fluquinconazole, flusilazole, flutriafol, hexaconazole, imibenconazole, ipconazole, metconazole, myclobutanil, penconazole, propiconazole, prothioconazole, simeconazole, tebuconazole,

tetraconazole, triadimefon, triadimenol, triticonazole, diclobutrazole, etaconazole, fluotrimazole, furconazole, furconazole-cis, triamiphos, or triazbutil;

in an (a)/(b) weight ratio of from 0.01 to 20. In fact, Hopkinson et al. disclose nothing at all about weight ratios of multiple fungicides, or compounds that are capable of inhibiting ergosterol biosynthesis.

Accordingly, it is requested that rejection of claim 1 under 35 U.S.C. § 103(a) as being unpatentable over the combined teachings of Cooke et al. and Holmwood et al. in view of Hopkinson et al. be withdrawn.

2. Rejection for Obviousness-Type Double Patenting

The Examiner has advised the Applicants that obviousness-type double patenting issues are raised by U.S. Patent Nos. 7,776,892 and 7,786,148 and of the benefit of early filing of terminal disclaimers for expedited prosecution.

A timely filed terminal disclaimer in compliance with 37 C.F.R. § 1.321(c) may be used to overcome or prevent an actual or provisional rejection based on a non-statutory double patenting ground provided the conflicting patents are shown to be commonly owned with this application.

The present application and U.S. Patent Nos. 7,776,892 and 7,786,148 are commonly owned by Bayer CropScience AG.

A Terminal Disclaimer under 37 C.F.R. § 1.321(b) and (c) disclaiming, with the customary exceptions, the terminal part of the statutory term of any patent granted on the instant application that would extend beyond the expiration date(s) of the full statutory term(s) of U.S.

Patent Nos. 7,776,892 and 7,786,148 is filed herewith. The Terminal Disclaimer authorizes the charge of the Official Fee of $140 to Deposit Account No. 15-0700.

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration is requested.

Respectfully submitted,

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